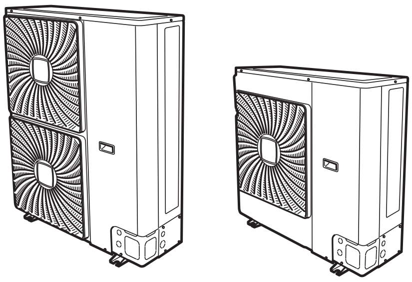
Installation manual

Split system air conditioners



RZQG71L9V1B
RZQG100L9V1B
RZQG125L9V1B
RZQG140L9V1B

RZQG71L8Y1B
RZQG100L8Y1B
RZQG125L8Y1B
RZQG140L7Y1B

RZQSG100L9V1B
RZQSG125L9V1B
RZQSG140L9V1B

RZQSG100L8Y1B
RZQSG125L8Y1B
RZQSG140L7Y1B

CE - DECLARATION-OF-CONFORMITY
CE - KONFORMITÄTSERKLÄRUNG
CE - DECLARATION-DE-CONFORMITE
CE - CONFORMITEITSVERKLARING
CE - DECLARACION-DE-CONFORMIDAD
CE - DICHIARAZIONE-DI-CONFORMITA
CE - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ
CE - DECLARAÇÃO-DE-CONFORMIDADE
CE - ЗАЯВЛЕНИЕ-О-СООТВЕТСТВИИ
CE - OVERENSSTEMMELSESERKLÆRING
CE - FÖRSÄKRAN-OM-ÖVERENSTÄMMELSE
CE - ERKLÆRING OM-SAMSVAR
CE - ILMOITUS-YHDENMUKAISUUDESTA
CE - PROHLÁŠENÍ-O-SHODĚ
CE - IZJAVA-O-USKLAĐENOSTI
CE - MEGFELELŐSÉGI-NYILATKOZAT
CE - DEKLARACJA-ZGODNOŚCI
CE - DECLARAŢIE-DE-CONFORMITATE
CE - IZJAVA O SKLADNOSTI
CE - VASTAVUSDEKLARATSIOON
CE - ДЕКЛАРАЦИЯ-ЗА-СЪОТВЕТСТВИЕ
CE - ATITIKTIES-DEKLARACIJA
CE - ATBILSTĪBAS-DEKLARĀCIJA
CE - VYHLÁSENIE-ZHODY
CE - UYGUNLUK-BEYANI

Daikin Europe N.V.

01 (GB) declares under its sole responsibility that the air conditioning models to which this declaration relates:
02 (D) erklärt auf seine alleinige Verantwortung daß die Modelle der Klimageräte für die diese Erklärung bestimmt ist:
03 (F) déclare sous sa seule responsabilité que les appareils d'air conditionné visés par la présente déclaration:
04 (NL) verklaart hierbij op eigen exclusieve verantwoordelijkheid dat de airconditioning units waarop deze verklaring betrekking heeft:
05 (E) declara baja su única responsabilidad que los modelos de aire acondicionado a los cuales hace referencia la declaración:
06 (I) dichiara sotto sua responsabilità che i condizionatori modello a cui è riferita questa dichiarazione:
07 (GR) δηλώνει με αποκλειστική της ευθύνη ότι τα μοντέλα των κλιματιστικών συσκευών στα οποία αναφέρεται η παρούσα δήλωση:
08 (P) declara sob sua exclusiva responsabilidade que os modelos de ar condicionado a que esta declaração se refere:
09 (RUS) заявляет, исключительно под свою ответственность, что модели кондиционеров воздуха, к которым относится настоящее заявление:
10 (DK) erklærer under eneansvar, at klimaanlægmodellerne, som denne deklaration vedrører:
11 (S) deklarerar i egenskap av huvudansvarig, att luftkonditioneringsmodellerna som berörs av denna deklaration innebär att:
12 (N) erklærer et fullstendig ansvar for at de luftkondisjoneringsmodeller som berøres av denne deklarasjon, innebærer at:
13 (FIN) ilmoittaa yksinomaan omalla vastuullaan, että tämän ilmoituksen tarkoittamat ilmastointilaitteiden mallit:
14 (CZ) prohlašuje ve své plné odpovědnosti, že modely klimatizace, k nimž se toto prohlášení vztahuje:
15 (HR) izjavljuje pod isključivo vlastitom odgovornošću da su modeli klima uređaja na koje se ova izjava odnosi:
16 (H) teljes felelőssége tudatában kijelenti, hogy a klímaberendezés modellek, melyekre e nyilatkozat vonatkozik:
17 (PL) deklaruje na własną i wyłączną odpowiedzialność, że modele klimatyzatorów, których dotyczy niniejsza deklaracja:
18 (RO) declară pe proprie răspundere că aparatele de aer condiţionat la care se referă această declaraţie:
19 (SLO) z vso odgovornostjo izjavlja, da so modeli klimatskih naprav, na katere se izjava nanaša:
20 (EST) kinnitab oma täielikul vastutusel, et käesoleva deklaratsiooni alla kuuluvad kliimaseadmete mudelid:
21 (BG) декларира на своя отговорност, че моделите климатична инсталация, за които се отнася тази декларация:
22 (LT) visiška savo atsakomybe skelbia, kad oro kondicionavimo prietaisų modeliai, kuriems yra taikoma ši deklaracija:
23 (LV) ar pilnu atbildību apliecina, ka tālāk uzskaitīto modeļu gaisa kondicionētāji, uz kuriem attiecas šī deklarācija:
24 (SK) vyhlasuje na vlastnú zodpovednosť, že tieto klimatizačné modely, na ktoré sa vzťahuje toto vyhlásenie:
25 (TR) tamamen kendi sorumluluğunda olmak üzere bu bildirinin ilgili olduğu klima modellerinin aşağıdaki gibi olduğunu beyan eder:

RZQG71L9V1B*, RZQG100L9V1B*, RZQG125L9V1B*, RZQG140L9V1B*,
RZQSG100L9V1B*, RZQSG125L9V1B*, RZQSG140L9V1B*,
RZQG71L8Y1B*, RZQG100L8Y1B*, RZQG125L8Y1B*, RZQG140L7Y1B*,
RZQSG100L8Y1B*, RZQSG125L8Y1B*, RZQSG140L7Y1B*,

*= , ,1,2,3,...,9

01 are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:
02 der/den folgenden Norm(en) oder einem anderen Normdokument oder -dokumenten entspricht/entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:
03 sont conformes à la/aux norme(s) ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:
04 conform de volgende norm(en) of één of meer andere bindende documenten zijn, op voorwaarde dat ze worden gebruikt overeenkomstig onze instructies:
05 están en conformidad con la(s) siguiente(s) norma(s) u otro(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras instrucciones:
06 sono conformi al(i) seguente(i) standard(s) o altro(i) documento(i) a carattere normativo, a patto che vengano usati in conformità alle nostre istruzioni:
07 είναι σύμφωνα με το(α) ακόλουθο(α) πρότυπο(α) ή άλλο έγγραφο(α) κανονισμών, υπό την προϋπόθεση ότι χρησιμοποιούνται σύμφωνα με τις οδηγίες μας:
08 estão em conformidade com a(s) seguinte(s) norma(s) ou outro(s) documento(s) normativo(s), desde que estes sejam utilizados de acordo com as nossas instruções:
09 соответствуют следующим стандартам или другим нормативным документам, при условии их использования согласно нашим инструкциям:
10 overholder følgende standard(er) eller andet/andre retningsgivende dokument(er), forudsat at disse anvendes i henhold til vore instrukser:
11 respektive utrustning är utförd i överensstämmelse med och följer följande standard(er) eller andra normgivande dokument, under förutsättning att användning sker i överensstämmelse med våra instruktioner:
12 respektive utstyr er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forutssetning av at disse brukes i henhold til våre instrukser:
13 vastaavat seuraavien standardien ja muiden ohjeellisten dokumenttien vaatimuksia edellyttäen, että niitä käytetään ohjeidemme mukaisesti:
14 za předpokladu, že jsou využívány v souladu s našimi pokyny, odpovídají následujícím normám nebo normativním dokumentům:
15 u skladu sa slijedećim standardom(ima) ili drugim normativnim dokumentom(ima), uz uvjet da se oni koriste u skladu s našim uputama:
16 megfelelnek az alábbi szabvány(ok)nak vagy egyéb irányadó dokumentum(ok)nak, ha azokat előírás szerint használják:
17 spełniają wymogi następujących norm i innych dokumentów normalizacyjnych, pod warunkiem że używane są zgodnie z naszymi instrukcjami:
18 sunt în conformitate cu următorul (următoarele) standard(e) sau alt(e) document(e) normativ(e), cu condiţia ca acestea să fie utilizate în conformitate cu instrucţiunile noastre:
19 skladni z naslednjimi standardi in drugimi normativi, pod pogojem, da se uporabljajo v skladu z našimi navodili:
20 on vastavuses järgmis(t)e standardi(te)ga või teiste normatiivsete dokumentidega, kui neid kasutatakse vastavalt meie juhenditele:
21 съответстват на следните стандарти или други нормативни документи, при условие, че се използват съгласно нашите инструкции:
22 atitinka žemiau nurodytus standartus ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
23 tad, ja lietoti atbilstoši ražotāja norādījumiem, atbilst sekojošiem standartiem un citiem normatīviem dokumentiem:
24 sú v zhode s nasledovnou(ými) normou(ami) alebo iným(i) normatívnym(i) dokumentom(ami), za predpokladu, že sa používajú v súlade s našim návodom:
25 ürünün, talimatlarımıza göre kullanılması koşuluyla aşağıdaki standartlar ve norm belirten belgelerle uyumludur:

EN60335-2-40,

01 following the provisions of:
02 gemäß den Vorschriften der:
03 conformément aux stipulations des:
04 overeenkomstig de bepalingen van:
05 siguiendo las disposiciones de:
06 secondo le prescrizioni per:
07 με τήρηση των διατάξεων των:
08 de acordo com o previsto em:
09 в соответствии с положениями:
10 under iagttagelse af bestemmelserne i:
11 enligt villkoren i:
12 gitt i henhold til bestemmelsene i:
13 noudattaen määräyksiä:
14 za dodržení ustanovení předpisu:
15 prema odredbama:
16 követi a(z):
17 zgodnie z postanowieniami Dyrektyw:
18 în urma prevederilor:
19 ob upoštevanju določb:
20 vastavalt nõuetele:
21 следвайки клаузите на:
22 laikantis nuostatų, pateikiamų:
23 ievērojot prasības, kas noteiktas:
24 održiavajúc ustanovenia:
25 bunun koşullarına uygun olarak:

Machinery 2006/42/EC **
Electromagnetic Compatibility 2004/108/EC *
Low voltage 2006/95/EC

01 Directives, as amended.
02 Direktiven, gemäß Änderung.
03 Directives, telles que modifiées.
04 Richtlijnen, zoals geamendeerd.
05 Directivas, según lo enmendado.
06 Direttive, come da modifica.
07 Οδηγιών, όπως έχουν τροποποιηθεί.
08 Directivas, conforme alteração em.
09 Директив со всеми поправками.
10 Direktiver, med senere ændringer.
11 Direktiv, med företagna ändringar.
12 Direktiver, med foretatte endringer.
13 Direktiivejä, sellaisina kuin ne ovat muutettuina.
14 v platném znění.
15 Smjernice, kako je izmijenjeno.
16 irányelv(ek) és módosításaik rendelkezéseit.
17 z późniejszymi poprawkami.
18 Directivelor, cu amendamentele respective.
19 Direktive z vsemi spremembami.
20 Direktiivid koos muudatustega.
21 Директиви, с техните изменения.
22 Direktyvose su papildymais.
23 Direktīvās un to papildinājumos.
24 Smernice, v platnom znení.
25 Değiştirilmiş halleriyle Yönetmelikler.

01 **Note*** as set out in **<A>** and judged positively by **<B>** according to the **Certificate** **<C>**.
02 **Hinweis*** wie in **<A>** aufgeführt und von **<B>** positiv beurteilt gemäß **Zertifikat** **<C>**.
03 **Remarque*** tel que défini dans **<A>** et évalué positivement par **<B>** conformément au **Certificat** **<C>**.
04 **Bemerk*** zoals vermeld in **<A>** en positief beoordeeld door **<B>** overeenkomstig **Certificaat** **<C>**.
05 **Nota*** como se establece en **<A>** y es valorado positivamente por **<B>** de acuerdo con el **Certificado** **<C>**.
06 **Nota*** delineato nel **<A>** e giudicato positivamente da **<B>** secondo il **Certificato** **<C>**.
07 **Σημείωση*** όπως καθορίζεται στο **<A>** και κρίνεται θετικά από το **<B>** σύμφωνα με το **Πιστοποιητικό** **<C>**.
08 **Nota*** tal como estabelecido em **<A>** e com o parecer positivo de **<B>** de acordo com o **Certificado** **<C>**.
09 **Примечание*** как указано в **<A>** и в соответствии с положительным решением **<B>** согласно **Свидетельству** **<C>**.
10 **Bemærk*** som anført i **<A>** og positivt vurderet af **<B>** i henhold til **Certifikat** **<C>**.
11 **Information*** enligt **<A>** och godkänts av **<B>** enligt **Certifikatet** **<C>**.
12 **Merk*** som det fremkommer i **<A>** og gjennom positiv bedømmelse av **<B>** ifølge **Sertifikat** **<C>**.
13 **Huom*** jotka on esitetty asiakirjassa **<A>** ja jotka **<B>** on hyväksynyt **Sertifikaatin** **<C>** mukaisesti.
14 **Poznámka*** jak bylo uvedeno v **<A>** a pozitivně zjištěno **<B>** v souladu s **osvědčením** **<C>**.
15 **Napomena*** kako je izloženo u **<A>** i pozitivno ocijenjeno od strane **<B>** prema **Certifikatu** **<C>**.
16 **Megjegyzés*** a(z) **<A>** alapján, a(z) **<B>** igazolta a megfelelést, a(z) **<C>** **tanúsítvány** szerint.
17 **Uwaga*** zgodnie z dokumentacją **<A>**, pozytywną opinią **<B>** i **Świadectwem** **<C>**.
18 **Notă*** aşa cum este stabilit în **<A>** şi apreciat pozitiv de **<B>** în conformitate cu **Certificatul** **<C>**.
19 **Opomba*** kot je določeno v **<A>** in odobreno s strani **<B>** v skladu s **certifikatom** **<C>**.
20 **Märkus*** nagu on näidatud dokumendis **<A>** ja heaks kiidetud **<B>** järgi vastavalt **sertifikaadile** **<C>**.
21 **Забележка*** както е изложено в **<A>** и оценено положително от **<B>** съгласно **Сертификата** **<C>**.
22 **Pastaba*** kaip nustatyta **<A>** ir kaip teigiamai nuspręsta **<B>** pagal **Sertifikatą** **<C>**.
23 **Piezīmes*** kā norādīts **<A>** un atbilstoši **<B>** pozitīvajam vērtējumam saskaņā ar **sertifikātu** **<C>**.
24 **Poznámka*** ako bolo uvedené v **<A>** a pozitívne zistené **<B>** v súlade s **osvedčením** **<C>**.
25 **Not*** **<A>**'da belirtildiği gibi ve **<C>** **Sertifikasına** göre **<B>** tarafından olumlu olarak değerlendirildiği gibi.

<A>	**DAIKIN.TCF.021G27/09-2014**
<B>	**DEKRA (NB0344)**
<C>	**2024351-QUA/EMC02-4565**

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02** Daikin Europe N.V. hat die Berechtigung die Technische Konstruktionsakte zusammenzustellen.
03** Daikin Europe N.V. est autorisé à compiler le Dossier de Construction Technique.
04** Daikin Europe N.V. is bevoegd om het Technisch Constructiedossier samen te stellen.
05** Daikin Europe N.V. está autorizado a compilar el Archivo de Construcción Técnica.
06** Daikin Europe N.V. è autorizzata a redigere il File Tecnico di Costruzione.
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DAIKIN

Jean-Pierre Beuselinck
Director
Ostend, 3rd of November, 2014

DAIKIN EUROPE N.V.
Zandvoordestraat 300, B-8400 Oostende, Belgium

Table of contents

1 About the documentation

1.1 About this document

Target audience

Authorised installers

> **INFORMATION**
>
> This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

Documentation set

This document is part of a documentation set. The complete set consists of:

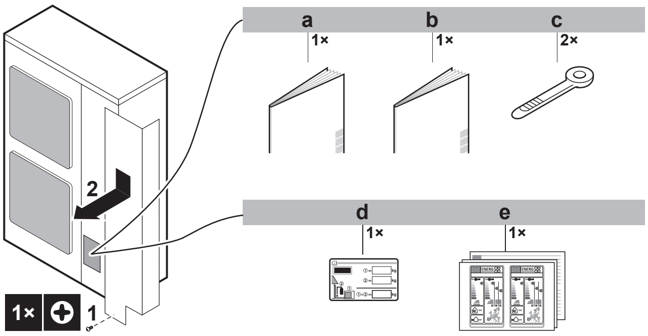
Document	Contains…	Format
General safety precautions	Safety instructions that you must read before installing	Paper (in the box of the outdoor unit)
Outdoor unit installation manual	Installation instructions	
Installer reference guide	Preparation of the installation, technical specifications, reference data,…	Digital files on http://www.daikineurope.com/support-and-manuals/product-information/.

Latest revisions of the supplied documentation may be available on the regional Daikin website or via your dealer.

2 About the box

2.1 Outdoor unit

2.1.1 To remove the accessories from the outdoor unit



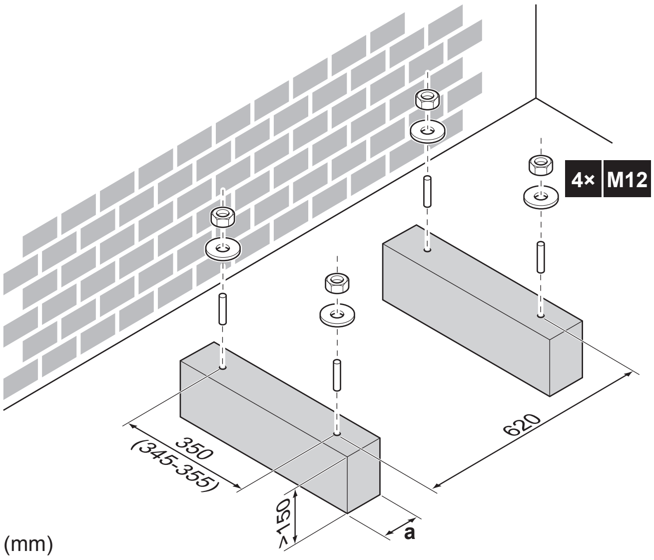
- **a** General safety precautions
- **b** Outdoor unit installation manual
- **c** Cable tie
- **d** Fluorinated greenhouse gases label
- **e** Energy label

3 Installation

3.1 Mounting the outdoor unit

3.1.1 To provide the installation structure

Prepare 4 sets of anchor bolts, nuts and washers (field supply) as follows:

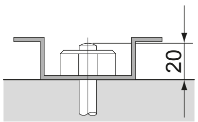


(mm)

a Make sure not to cover the drain holes.

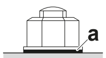
INFORMATION

The recommended height of the upper protruding part of the bolts is 20 mm.

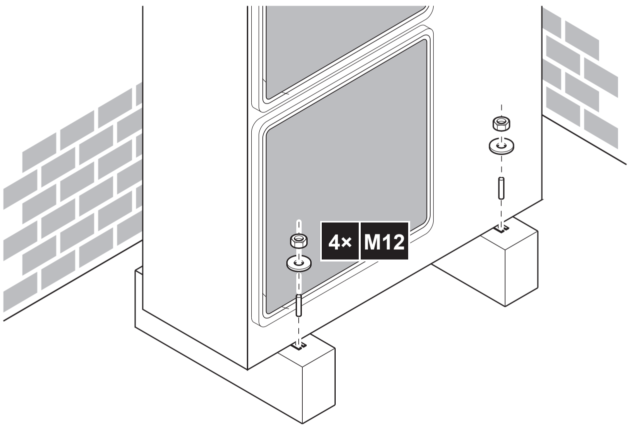


NOTICE

Fix the outdoor unit to the foundation bolts using nuts with resin washers (a). If the coating on the fastening area is stripped off, the nuts rust easily.



3.1.2 To install the outdoor unit



3.1.3 To provide drainage

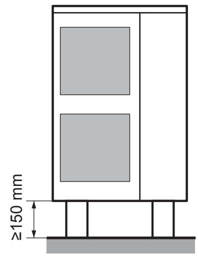
Make sure that condensation water can be evacuated properly.

INFORMATION

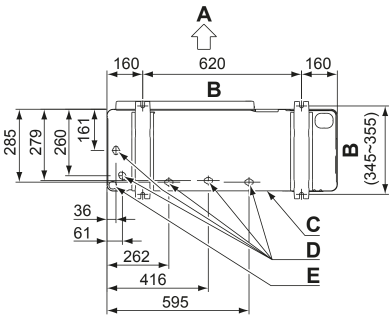
If necessary, you can use a drain plug kit (field supply) to prevent drain water from dripping.

NOTICE

If drain holes of the outdoor unit are covered by a mounting base or by floor surface, raise the unit to provide a free space of more than 150 mm under the outdoor unit.



Drain holes (dimensions in mm)

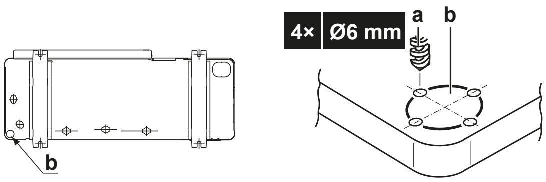


A Discharge side
B Distance between anchor points
C Bottom frame
D Drain holes
E Knockout hole for snow

Snow

In regions with snowfall, snow might build up and freeze between the heat exchanger and the external plate. This might decrease the operating efficiency. To prevent this:

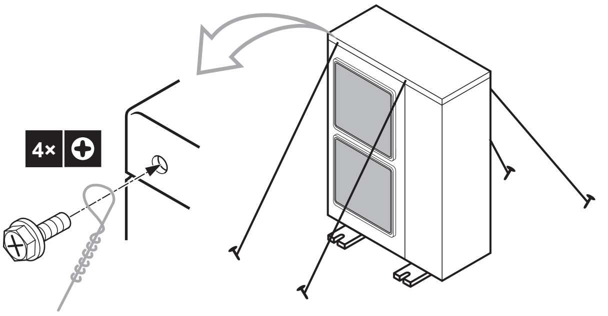
1 Drill (a, 4×) and remove the knockout hole (b).



2 Remove the burrs, and paint the edges and areas around the edges using repair paint to prevent rusting.

3.1.4 To prevent the outdoor unit from falling over

Connect cables (field supply) as shown:



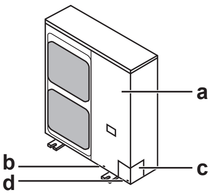
3.2 Connecting the refrigerant piping

DANGER: RISK OF BURNING

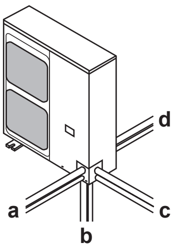
3.2.1 To connect the refrigerant piping to the outdoor unit

1 Do the following:

- Remove the service cover (a) with screw (b).
- Remove the piping intake plate (c) with screw (d).

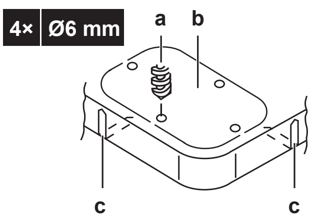


2 Choose a piping route (a, b, c or d).



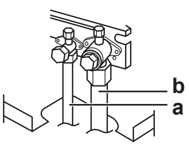
3 If you have chosen the downwards piping route:

- Drill (a, 4×) and remove the knockout hole (b).
- Cut out the slits (c) with a metal saw.



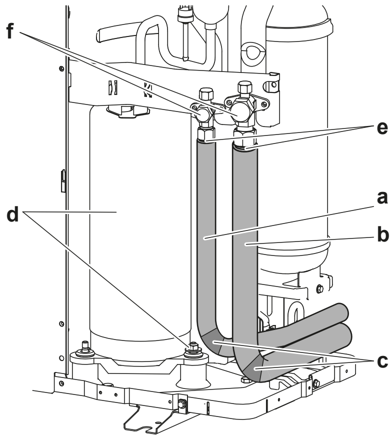
4 Do the following:

- Connect the liquid pipe (a) to the liquid stop valve.
- Connect the gas pipe (b) to the gas stop valve.



5 Do the following:

- Insulate the liquid piping (a) and the gas piping (b).
- Wind heat insulation around the curves, and then cover it with vinyl tape (c).
- Make sure the field piping does not touch any compressor components (d).
- Seal the insulation ends (sealant etc.) (e).



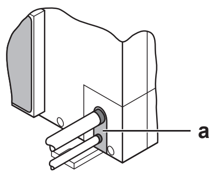
6 If the outdoor unit is installed above the indoor unit, cover the stop valves (f, see above) with sealing material to prevent condensed water on the stop valves from moving to the indoor unit.

NOTICE

Any exposed piping might cause condensation.

7 Reattach the service cover and the piping intake plate.

8 Seal all gaps (example: a) to prevent snow and small animals from entering the system.



WARNING

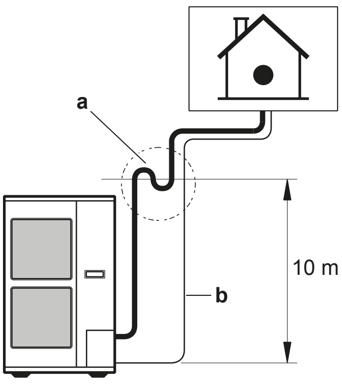
Provide adequate measures to prevent that the unit can be used as a shelter by small animals. Small animals that make contact with electrical parts can cause malfunctions, smoke or fire.

NOTICE

Make sure to open the stop valves after installing the refrigerant piping and performing vacuum drying. Running the system with the stop valves closed may break the compressor.

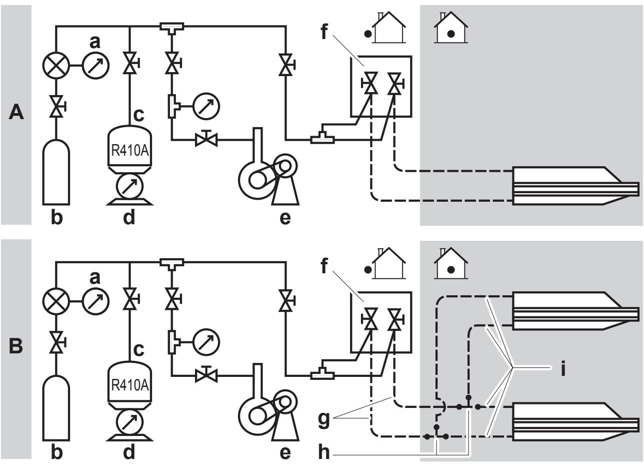
3.2.2 To determine if oil traps are required

If oil flows back into the outdoor unit's compressor, this might cause liquid compression or deterioration of oil return. Oil traps in the rising gas piping can prevent this.

If	Then
The indoor unit is installed higher than the outdoor unit	Install an oil trap every 10 m (height difference).  **a** Rising gas piping with oil trap **b** Liquid piping
The outdoor unit is installed higher than the indoor unit	Oil traps are NOT required.

3.3 Checking the refrigerant piping

3.3.1 Checking refrigerant piping: Setup



A Setup in case of pair
B Setup in case of twin
a Pressure gauge
b Nitrogen
c Refrigerant
d Weighing machine
e Vacuum pump
f Stop valve
g Main piping
h Refrigerant branch kit
i Branch piping

3.3.2 To check for leaks

NOTICE

Do NOT exceed the unit's maximum working pressure (see "PS High" on the unit name plate).

NOTICE

Make sure to use a recommended bubble test solution from your wholesaler. Do not use soap water, which may cause cracking of flare nuts (soap water may contain salt, which absorbs moisture that will freeze when the piping gets cold), and/or lead to corrosion of flared joints (soap water may contain ammonia which causes a corrosive effect between the brass flare nut and the copper flare.

1. Charge the system with nitrogen gas up to a gauge pressure of at least 200 kPa (2 bar). It is recommended to pressurize to 3000 kPa (30 bar) in order to detect small leaks.
2. Check for leaks by applying the bubble test solution to all connections.
3. Discharge all nitrogen gas.

3.3.3 To perform vacuum drying

1. Vacuum the system until the pressure on the manifold indicates −0.1 MPa (−1 bar).
2. Leave as is for 4-5 minutes and check the pressure:

If the pressure…	Then…
Does not change	There is no moisture in the system. This procedure is finished.
Increases	There is moisture in the system. Go to the next step.

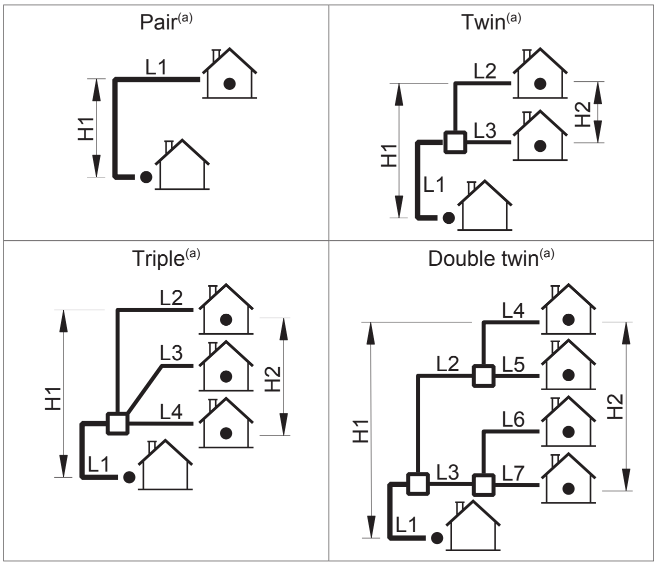
3. Evacuate for at least 2 hours to a pressure on the manifold of −0.1 MPa (−1 bar).
4. After turning OFF the pump, check the pressure for at least 1 hour.
5. If you do NOT reach the target vacuum or cannot maintain the vacuum for 1 hour, do the following:
   - Check for leaks again.
   - Perform vacuum drying again.

NOTICE

Make sure to open the stop valves after installing the refrigerant piping and performing vacuum drying. Running the system with the stop valves closed may break the compressor.

3.4 Charging refrigerant

3.4.1 Definitions: L1~L7, H1, H2



(a) Assume that the longest line in the illustration corresponds with the actual longest pipe, and the highest unit in the illustration corresponds with the actual highest unit.
L1 Main piping
L2~L7 Branch piping
H1 Height difference between the highest indoor unit and the outdoor unit
H2 Height difference between the highest and the lowest indoor unit
▢ Refrigerant branch kit

3.4.2 To determine the additional refrigerant amount

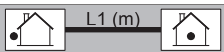
To determine if adding additional refrigerant is necessary

If	Then
(L1+L2+L3+L4+L5+L6+L7)≤ chargeless length Chargeless length= ▪ 10 m (size-down) ▪ 30 m (standard) ▪ 15 m (size-up)	You do not have to add additional refrigerant.
(L1+L2+L3+L4+L5+L6+L7)> chargeless length	You must add additional refrigerant. For future servicing, encircle the selected amount in the tables below.

INFORMATION

Piping length is the largest one way length of liquid piping.

To determine the additional refrigerant amount (R in kg) (in case of pair)

				
L1 (standard):	**30~40 m**	**40~50 m**	**50~60 m**[(a)]	**60~75 m**[(a)]
L1 (size-up):	**15~20 m**	**20~25 m**	**25~30 m**[(a)]	**30~35 m**[(a)]
R:	0.5 kg	1.0 kg	1.5 kg	2.0 kg

(a) Only for RZQG100~140.

To determine the additional refrigerant amount (R in kg) (in case of twin, triple and double twin)

1 Determine G1 and G2.

G1 (m)	Total length of <x> liquid piping x=**Ø9.5 mm** (standard) x=**Ø12.7 mm** (size-up)
G2 (m)	Total length of **Ø6.4** mm liquid piping

2 Determine R1 and R2.

If	Then
G1>30 m[(a)]	Use the table below to determine R1 (length=**G1−30 m**)[(a)] and R2 (length=**G2**).
G1≤30 m[(a)] (and G1+G2>30 m)[(a)]	R1=0.0 kg. Use the table below to determine R2 (length=**G1+G2−30 m**)[(a)].

(a) In case of size-up: Replace 30 m by 15 m.

In case of **standard** liquid pipe size:

	Length			
	0~10 m	**10~20 m**	**20~30 m**[(a)]	**30~45 m**[(a)]
R1:	0.5 kg	1.0 kg	1.5 kg	2.0 kg
R2:	0.3 kg	0.6 kg	0.9 kg	1.2 kg

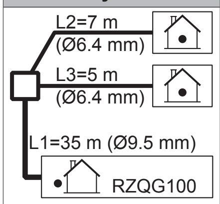
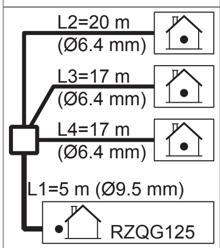
In case of **size-up** liquid pipe size:

	Length			
	0~5 m	**5~10 m**	**10~15 m**[(a)]	**15~20 m**[(a)]
R1, R2:	0.5 kg	1.0 kg	1.5 kg	2.0 kg

(a) Only for RZQG100~140.

3 Determine the additional refrigerant amount: R=R1+R2.

Examples

Layout	Additional refrigerant amount (R)		
	Case: Twin, standard liquid pipe size		
	1	G1	Total Ø9.5 => G1=35 m
		G2	Total Ø6.4 => G2=7+5=12 m
	2	Case: G1>30 m	
		R1	Length=G1−30 m=5 m => R1=0.5 kg
		R2	Length=G2=12 m => R2=0.6 kg
	3	R	R=R1+R2=0.5+0.6=1.1 kg
	Case: Triple, standard liquid pipe size		
	1	G1	Total Ø9.5 => G1=5 m
		G2	Total Ø6.4 => G2=20+17+17=54 m
	2	Case: G1≤30 m (and G1+G2>30 m)	
		R1	R1=0.0 kg
		R2	Length=G1+G2−30 m=5+54−30= 29 m => R2=0.9 kg
	3	R	R=R1+R2=0.0+0.9=0.9 kg

3.4.3 To determine the complete recharge amount

For RZQG only: When piping length is <5 m, a complete recharge of the unit is required.

To determine the complete recharge amount (kg) (in case of standard liquid pipe size)

Model	Length (m)[a]						
	5~10[b]	10~20	20~30	30~40	40~50	50~60	60~75
RZQG71	1.9	2.4	2.9	3.4	3.9	—	—
RZQG100~140	3.0	3.5	4.0	4.5	5.0	5.5	6.0
RZQSG100+125	1.9	2.4	2.9	3.4	3.9	—	—
RZQSG140	3.0	3.5	4.0	4.5	5.0	—	—

(a) Length = L1 (pair); L1+L2 (twin, triple); L1+L2+L4 (double twin)
(b) For RZQG: 3~10 m

To determine the complete recharge amount (kg) (in case of size-up liquid pipe size)

Model	Length (m)[a]						
	3~5	5~10	10~15	15~20	20~25	25~30	30~35
RZQG71	1.9	2.4	2.9	3.4	3.9	—	—
RZQG100~140	3.0	3.5	4.0	4.5	5.0	5.5	6.0
RZQSG100+125	—	2.4	2.9	3.4	3.9	—	—
RZQSG140	—	3.5	4.0	4.5	5.0	—	—

(a) Length = L1 (pair); L1+L2 (twin, triple); L1+L2+L4 (double twin)

To determine the complete recharge amount (kg) (in case of size-down liquid pipe size)

Model	Length (m)[a]	
	3~5	5~10
RZQG71	1.9	1.9
RZQG100~140	3.0	3.0
RZQSG100+125	—	1.9
RZQSG140	—	3.0

(a) Length = L1 (pair); L1+L2 (twin, triple); L1+L2+L4 (double twin)

3.4.4 Charging refrigerant: Setup

See "3.3.1 Checking refrigerant piping: Setup" on page 6.

3.4.5 To charge refrigerant

WARNING

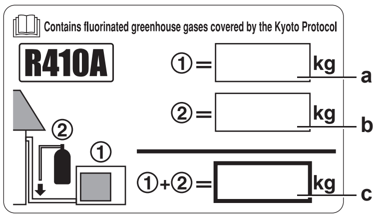
- Only use R410A as refrigerant. Other substances may cause explosions and accidents.
- R410A contains fluorinated greenhouse gases covered by the Kyoto Protocol. Its global warming potential value is 1975. Do NOT vent these gases into the atmosphere.
- When charging refrigerant, always use protective gloves and safety glasses.

Prerequisite: Before charging refrigerant, make sure the refrigerant piping is connected and checked (leak test and vacuum drying).

1. Connect the refrigerant cylinder to both the service port of the gas stop valve and the service port of the liquid stop valve.
2. Charge the additional refrigerant amount.
3. Open the stop valves.

3.4.6 To fix the fluorinated greenhouse gases label

1. Fill in the label as follows:



a Factory refrigerant charge: see unit name plate
b Additional refrigerant amount charged
c Total refrigerant charge

2. The filled out label must be adhered on the inside of the product and in the proximity of the product charging port (e.g., on the inside of the service cover).

3.5 Connecting the electrical wiring

DANGER: RISK OF ELECTROCUTION

WARNING

ALWAYS use multicore cable for power supply cables.

CAUTION

For use of units in applications with temperature alarm settings it is recommended to foresee a delay of 10 minutes for signalling the alarm in case the alarm temperature is exceeded. The unit may stop for several minutes during normal operation for "defrosting the unit", or when in "thermostat stop" operation.

3.5.1 About electrical compliance

RZQ(S)G_V1 + RZQSG100+125_Y1

Equipment complying with EN/IEC 61000-3-12 (European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.).

RZQG100~140_Y1 + RZQSG140_Y1

Equipment complying with:

- **EN/IEC 61000-3-12** provided that the short-circuit power S_{sc} is greater than or equal to the minimum S_{sc} value at the interface point between the user's supply and the public system.
  - EN/IEC 61000-3-12 = European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.
  - It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to a supply with a short-circuit power S_{sc} greater than or equal to the minimum S_{sc} value.

Model	Minimum S_{sc} value
RZQG100~140_Y1 + RZQSG140_Y1	1170 kVA[a]

(a) This is the most stringent value. For specific product data, see the databooks.

3.5.2 Specifications of standard wiring components

Component		RZQG						RZQSG				
		V1			Y1			V1		Y1		
		71	100	125+140	71	100	125+140	100	125+140	100	125	140
Power supply cable	MCA[(a)]	20.6 A	32.0 A	33.5 A	14.0 A	21.0 A	22.5 A	32.0 A	33.5 A	17.7 A	19.2 A	22.5 A
	Voltage	230 V			400 V			230 V		400 V		
	Phase	1~			3N~			1~		3N~		
	Frequency	50 Hz										
	Wire sizes	Must comply with applicable legislation										
Interconnection cables		Minimum cable section of 2.5 mm² and applicable for 230 V										
Recommended field fuse		25 A	40 A		16 A	25 A		40 A		20 A		25 A
Earth leakage circuit breaker		Must comply with applicable legislation										

(a) MCA=Minimum circuit ampacity. Stated values are maximum values (see electrical data of combination with indoor units for exact values).

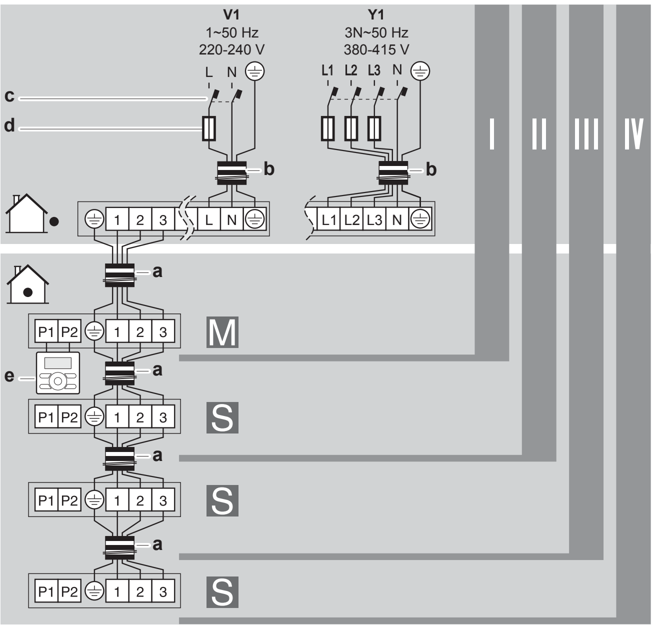
3.5.3 To connect the electrical wiring on the outdoor unit

NOTICE

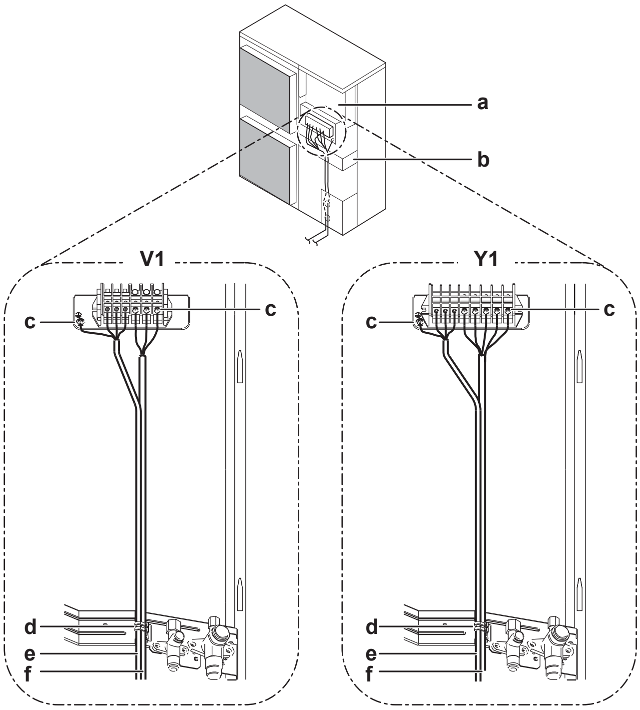
- Follow the wiring diagram (delivered with the unit, located at the inside of the service cover).
- Fix the earth wire to the stop valve attachment plate so that it does not slide.
- Make sure the electrical wiring does NOT obstruct proper reattachment of the service cover.

1 Remove the service cover.

2 Connect the interconnection cables and power supply as follows:



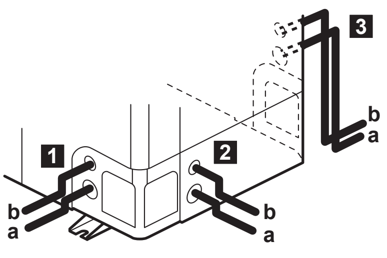
I, II, III, IV Pair, twin, triple, double twin
M, S Master, slave
a Interconnection cables
b Power supply cable
c Earth leakage circuit breaker
d Fuse
e User interface

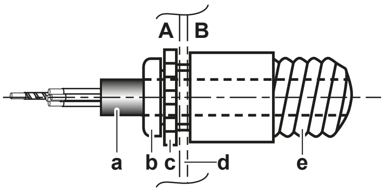


a Switch box
b Stop valve attachment plate
c Earth
d Cable tie
e Interconnection cable
f Power supply cable

3 Fix the cables (power supply and interconnection cable) with a cable tie to the stop valve attachment plate.

4 Route the wiring through the frame and connect it to it.

Routing through the frame	Choose one of the 3 possibilities:  **a** Power supply cable **b** Interconnection cable

Connecting to the frame	When cables are routed from the unit, a protection sleeve for the conduits (PG insertions) can be inserted at the knockout hole. When you do not use a wire conduit, protect the wires with vinyl tubes to prevent the edge of the knockout hole from cutting the wires.  **A** Inside of the outdoor unit **B** Outside of the outdoor unit **a** Wire **b** Bush **c** Nut **d** Frame **e** Hose

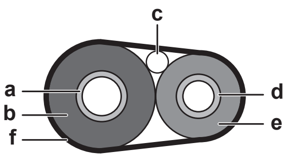
5 Reattach the service cover.

6 Connect an earth leakage circuit breaker and fuse to the power supply line.

3.6 Finishing the outdoor unit installation

3.6.1 To finish the outdoor unit installation

1 Insulate and fix the refrigerant piping and interconnection cable as follows:



a Gas pipe
b Gas pipe insulation
c Interconnection cable
d Liquid pipe
e Liquid pipe insulation
f Finishing tape

2 Install the service cover.

3.6.2 To check the insulation resistance of the compressor

NOTICE

If, after installation, refrigerant accumulates in the compressor, the insulation resistance over the poles can drop, but if it is at least 1 MΩ, then the unit will not break down.

- Use a 500 V mega-tester when measuring insulation.
- Do not use a mega-tester for low-voltage circuits.

1 Measure the insulation resistance over the poles.

If	Then
≥1 MΩ	Insulation resistance is OK. This procedure is finished.
<1 MΩ	Insulation resistance is not OK. Go to the next step.

2 Turn ON the power and leave it on for 6 hours.

Result: The compressor will heat up and evaporate any refrigerant in the compressor.

3 Measure the insulation resistance again.

4 Commissioning

NOTICE

NEVER operate the unit without thermistors and/or pressure sensors/switches. Burning of the compressor might result.

4.1 Checklist before test run

Do NOT operate the system before the following checks are OK:

☐	The **indoor units** are properly mounted.
☐	In case a wireless user interface is used: The **indoor unit decoration panel** with infrared receiver is installed.
☐	The **outdoor unit** is properly mounted.
☐	The following **field wiring** has been carried out according to this document and the applicable legislation: ▪ Between the local supply panel and the outdoor unit ▪ Between the outdoor unit and the indoor unit (master) ▪ Between the indoor units
☐	There are NO **missing phases** or **reversed phases**.
☐	The system is properly **earthed** and the earth terminals are tightened.
☐	The **fuses** or locally installed protection devices are installed according to this document, and have not been bypassed.
☐	The **power supply voltage** matches the voltage on the identification label of the unit.
☐	There are NO **loose connections** or damaged electrical components in the switch box.
☐	The **insulation resistance** of the compressor is OK.
☐	There are NO **damaged components** or **squeezed pipes** on the inside of the indoor and outdoor units.
☐	There are NO **refrigerant leaks**.
☐	The correct pipe size is installed and the **pipes** are properly insulated.
☐	The **stop valves** (gas and liquid) on the outdoor unit are fully open.

4.2 To perform a test run

This task is only applicable when using the BRC1E52 user interface.

- When using BRC1E51, see the installation manual of the user interface.
- When using BRC1D, see the service manual of the user interface.

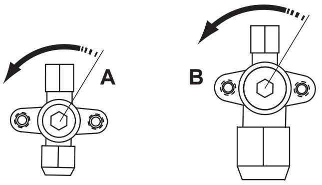
NOTICE

Do not interrupt the test run.

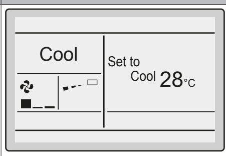
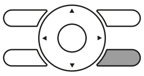
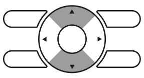
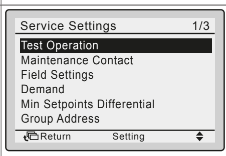
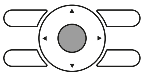
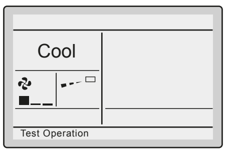
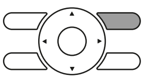
INFORMATION

Backlight. To perform an ON/OFF action on the user interface, the backlight does not need to be lit. For any other action, it needs to be lit first. The backlight is lit for ±30 seconds when you press a button.

1 Perform introductory steps.

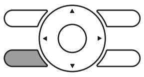
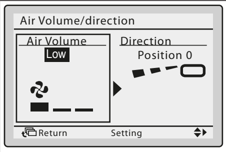
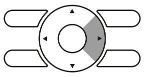
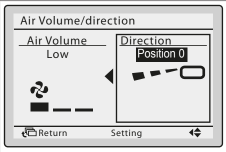
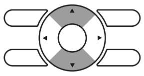
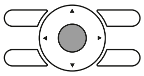
#	Action
1	Open the liquid stop valve (A) and gas stop valve (B) by removing the stem cap and turning counterclockwise with a hex wrench until it stops. 
2	Close the service cover to prevent electric shocks.
3	Turn ON power for at least 6 hours before starting operation to protect the compressor.
4	On the user interface, set the unit to cooling operation mode.

2 Start the test run.

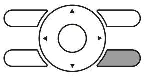
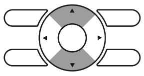
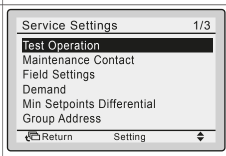
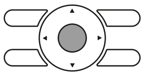
#	Action	Result
1	Go to the home menu.	
2	Press at least 4 seconds. 	The Service Settings menu is displayed.
3	Select Test Operation. 	
4	Press. 	Test Operation is displayed on the home menu. 
5	Press within 10 seconds. 	Test run starts.

3 Check operation for 3 minutes.

4 Check operation of the airflow direction.

#	Action	Result
1	Press. 	
2	Select Position 0. 	
3	Change the position. 	If the airflow flap of the indoor unit moves, operation is OK. If not, operation is not OK.
4	Press. 	The home menu is displayed.

5 Stop the test run.

#	Action	Result
1	Press at least 4 seconds. 	The Service Settings menu is displayed.
2	Select Test Operation. 	
3	Press. 	The unit returns to normal operation, and the home menu is displayed.

4.3 Error codes when performing a test run

If the installation of the outdoor unit has NOT been done correctly, the following error codes may be displayed on the user interface:

Error code	Possible cause
Nothing displayed (the currently set temperature is not displayed)	▪ The wiring is disconnected or there is a wiring error (between power supply and outdoor unit, between outdoor unit and indoor units, between indoor unit and user interface). ▪ The fuse on the outdoor unit PCB has blown out.
E3, E4 or L8	▪ The stop valves are closed. ▪ The air inlet or air outlet is blocked.
E7	There is a missing phase in case of three-phase power supply units. **Note:** Operation will be impossible. Turn OFF the power, recheck the wiring, and switch two of the three electrical wires.
L4	The air inlet or air outlet is blocked.
U0	The stop valves are closed.

Error code	Possible cause
U2	▪ There is a voltage imbalance. ▪ There is a missing phase in case of three-phase power supply units. **Note:** Operation will be impossible. Turn OFF the power, recheck the wiring, and switch two of the three electrical wires.
U4 or UF	The inter-unit branch wiring is not correct.
UA	The outdoor and indoor unit are incompatible.

NOTICE

- The reversed phase protection detector of this product only functions when the product starts up. Consequently reversed phase detection is not performed during normal operation of the product.
- The reversed phase protection detector is designed to stop the product in the event of an abnormality when the product is started up.
- Replace two of the three phases (L1, L2, and L3) during reverse-phase protection abnormality.

5 Technical data

5.1 Wiring diagram

5.1.1 Wiring diagram: Outdoor unit

The wiring diagram is delivered with the unit, located at the inside of the service cover.

Notes for RZQ(S)G_V1:

Notes:	
1	Symbols (see legend).
2	Colours (see legend).
3	This wiring diagram applies only to the outdoor unit.
4	Refer to the wiring diagram sticker (on the back of the service cover) for how to use the BS1~BS4 and DS1 switches.
5	When operating, do not short-circuit protective devices S1PH and S1PL.
6	Refer to the service manual for instructions on how to set the selector switches (DS1). The factory setting of all switches is OFF.
7	Refer to the combination table and the option manual for how to connect the wiring to X6A, X28A and X77A.

Notes for RZQ(S)G_Y1:

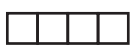
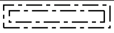
Notes:	
1	This wiring diagram applies only to the outdoor unit.
2	Refer to the combination table and the option manual for how to connect the wiring to X6A, X28A and X77A.
3	Refer to the wiring diagram sticker (on the back of the service cover) for how to use the BS1~BS4 and DS1 switches.
4	When operating, do not short-circuit protective device S1PH.
5	Refer to the service manual for instructions on how to set the selector switches (DS1). The factory setting of all switches is OFF.
6	Only for 71 class.

Legend for wiring diagrams:

A1P~A2P	Printed circuit board
BS1~BS4	Push button switch
C1~C3	Capacitor
DS1	DIP switch
E1H	Bottom plate heater (option)
F1U~F8U (RZQG71_V1 + RZQSG100_V1)	▪ F1U, F2U: Fuse ▪ F6U: Fuse (T 3.15 A / 250 V) ▪ F7U, F8U: Fuse (F 1.0 A / 250 V)
F1U~F8U (RZQG100~140_V1 + RZQSG125+140_V1)	▪ F1U~F4U: Fuse ▪ F6U: Fuse (T 5.0 A / 250 V) ▪ F7U, F8U: Fuse (F 1.0 A / 250 V)
F1U~F8U (RZQ(S)G_Y1)	▪ F1U, F2U: Fuse (31.5 A / 250 V) ▪ F1U (A2P): Fuse (T 5.0 A / 250 V) ▪ F3U~F6U: Fuse (T 6.3 A / 250 V) ▪ F7U, F8U: Fuse (F 1.0 A / 250 V)
H1P~H7P	Light-emitting diode (service monitor is orange)
HAP	Light-emitting diode (service monitor is green)
K1M, K11M	Magnetic contactor
K1R (RZQ(S)G_V1)	Magnetic relay (Y1S)
K1R (RZQ(S)G_Y1)	▪ K1R (A1P): Magnetic relay (Y1S) ▪ K1R (A2P): Magnetic relay
K2R (RZQG71_V1 + RZQSG100_V1)	Magnetic relay
K2R (RZQ(S)G_Y1)	▪ K2R (A1P): Magnetic relay (E1H option) ▪ K2R (A2P): Magnetic relay
K10R, K13R~K15R	Magnetic relay
K4R	Magnetic relay E1H (option)
L1R~L3R	Reactor
M1C	Motor (compressor)
M1F	Motor (upper fan)
M2F	Motor (lower fan)
PS	Switching power supply
Q1DI	Earth leakage circuit breaker (field supply)
R1~R6	Resistor
R1T	Thermistor (air)
R2T	Thermistor (discharge)
R3T	Thermistor (suction)
R4T	Thermistor (heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (liquid)
R7T (RZQG100~140_V1 + RZQSG125+140_V1)	Thermistor (fin)
R7T, R8T (RZQG71_V1 + RZQSG100_V1)	Thermistor (Positive Temperature Coefficient)
R10T (RZQ(S)G_Y1)	Thermistor (fin)
RC	Signal receiver circuit
S1PH	High pressure switch

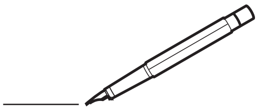
S1PL	Low pressure switch
TC	Signal transmission circuit
V1D~V4D	Diode
V1R	IGBT power module
V2R, V3R	Diode module
V1T~V3T	Insulated gate bipolar transistor (IGBT)
X6A	Connector (option)
X1M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4-way valve)
Z1C~Z6C	Noise filter (ferrite core)
Z1F~Z6F	Noise filter

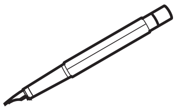
Symbols:

L	Live
N	Neutral
	Field wiring
	Terminal strip
	Connector
	Relay connector
	Connection
	Protective earth
	Noiseless earth
	Terminal
	Option

Colours:

BLK	Black
BLU	Blue
BRN	Brown
GRN	Green
ORG	Orange
RED	Red
WHT	White
YLW	Yellow





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